

**ENVIRONMENTAL PROTECTION AGENCY**

**[FRL-            ]**

**Approval of a Petition for Exemption from Hazardous Waste  
Disposal Injection Restrictions to AK Steel Corporation,  
Middletown, OH**

**AGENCY:** Environmental Protection Agency.

**ACTION:** Notice of final decision on petition.

**SUMMARY:** Notice is hereby given by the United States Environmental Protection Agency (EPA) that an exemption to the land disposal restrictions under the 1984 Hazardous and Solid Waste Amendments (HSWA) to the Resource Conservation and Recovery Act (RCRA) has been granted to AK Steel Corporation (AK Steel) of Middletown, Ohio, for two Class I injection wells located in Middletown, Ohio. As required by 40 CFR part 148, AK Steel has demonstrated, to a reasonable degree of certainty, that there will be no migration of hazardous constituents out of the injection zone or into an underground source of drinking water (USDW) for at least 10,000 years. This final decision allows the continued underground injection by AK Steel of a specific restricted waste, Waste Pickle Liquor, (code K062 under 40 CFR part 261), into two Class I hazardous waste injection wells specifically identified as Waste Disposal Wells No. 1 and No. 2, at the Middletown facility. This decision constitutes a

final EPA action for which, except for the two parties who commented on the draft decision, there is no Administrative Appeal.

**DATES:** This action is effective as of [insert date of publication in the Federal Register].

**FOR FURTHER INFORMATION CONTACT:** Leslie Patterson, Lead Petition Reviewer, EPA, Region V, telephone (312) 886-4904. Copies of the petition and all pertinent information relating thereto are on file and are part of the Administrative Record. It is recommended that you contact the lead reviewer prior to reviewing the Administrative Record.

**SUPPLEMENTARY INFORMATION:**

Background

AK Steel submitted a petition for renewal of an existing exemption from the land disposal restrictions of hazardous waste on March 6, 2006. EPA personnel reviewed all data pertaining to the petition, including, but not limited to, well construction, well operations, regional and local geology, seismic activity, penetrations of the confining zone, and computational models of the injection zone. EPA has determined that the geologic setting at the site as well as the construction and operation of the wells are adequate to prevent fluid migration out of the injection zone within 10,000 years, as required under 40 CFR part 148. The injection zone at this site is the upper Middle

Run Formation, the Mt. Simon Sandstone, and the Eau Claire Formation, at depths between 2,423 feet to 3,296 feet below ground level. The confining zone is the Knox Dolomite at depths between 1,172 feet to 2,423 feet below ground level. The confining zone is separated from the lowermost underground source of drinking water (at a depth of 522 feet below ground level) by a sequence of permeable and less permeable sedimentary rocks, which provide additional protection from fluid migration into drinking water sources.

EPA issued a draft decision, which described the reasons for granting this exemption in more detail, a fact sheet, which summarized these reasons, and a public notice on June 21, 2008, pursuant to 40 CFR 124.10. A public meeting was subsequently held in Middletown on July 21, 2008. The public comment period expired on August 5, 2008. EPA received two comments on the proposed exemption granted to AK Steel, neither of which bear on the validity of the no-migration demonstration. Although the draft decision incorrectly referred to an injection rate of 90 gallons per minute, this final decision is based on the more conservative injection rate that was used to demonstrate no-migration. This value is 60 gallons per minute, combined for both wells. EPA has determined that its reasons for granting the exemption as set forth in the original draft decision remain valid. A final exemption is therefore granted as proposed.

Conditions

This exemption is subject to the following conditions. Non-compliance with any of these conditions is grounds for termination of the exemption:

- (1) All regulatory requirements in 40 CFR 148.24 are incorporated by reference;
- (2) The exemption applies to the two existing injection wells, UIC Well No. 1 and UIC Well No. 2, located at the AK Steel facility at 1801 Crawford Street, Middletown, Ohio;
- (3) Injection is limited to that part of the lower Eau Claire Formation, Mt. Simon Sandstone, and upper Middle Run Sandstone at depths between 2,900 and 3,296 feet below the surface (referenced from an eight-foot Kelly bushing);
- (4) Only wastes denoted by the RCRA waste code K062 may be injected;
- (5) Maximum concentrations of chemical contaminants that are hazardous at less than one part per million are limited according to the table below:

Chemical constituent	Maximum concentration at the well head (mg/L)
Chromium	1,200
Hexavalent Chromium	1,200
Lead	1,000
Nickel	542

(6) The specific gravity of the injected waste stream must at all times range from 1.00 to 1.30;

(7) The volume of wastes injected in any month through both wells at the site must not exceed 2,629,800 gallons;

(8) This exemption is approved for the 12-year modeled injection period, which ends on October 1, 2017. AK Steel may petition EPA for a reissuance of the exemption beyond that date, provided that EPA Region 5 receives a new and complete petition and no-migration demonstration by April 1, 2017.

(9) AK Steel must quarterly submit to EPA a report containing the fluid analyses of the injected waste which must indicate the chemical and physical properties upon which the no-migration petition was based, including the levels of those constituents listed in Condition 5 of this exemption approval;

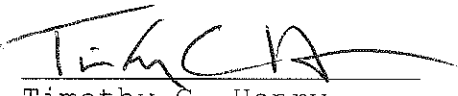
(10) AK Steel must annually submit to EPA a report containing the results of a bottom hole pressure survey (fall-off test) performed on either UIC Well No. 1 or UIC Well No. 2. The survey must be performed after shutting in the well for a period of time sufficient to allow the pressure in the injection interval to reach equilibrium, in accordance with 40 CFR 146.68(e)(1). The annual report must include a comparison of reservoir parameters determined from the fall-off test with parameters used in the approved no-migration petition; and

(11) The petitioner must fully comply with all requirements set

forth in Underground Injection Control Permits UIC 05-09-001-PTO-I and UIC 05-09-002-PTO-I issued by the Ohio Environmental Protection Agency. Upon the expiration, cancellation, reissuance, or modification of these permits by the Ohio Environmental Protection Agency, this exemption is subject to review. A new demonstration may be required if information shows that the basis for granting the exemption is no longer valid under 40 CFR 148.23 and 148.24.

7 OCTOBER 2008

Dated

  
Timothy C. Henry

Acting Director, Water Division, EPA Region 5